CLAIMS

1. A silicon-on-insulator metal oxide semiconductor field effect transistor (SOI MOSFET) comprising:

a semiconductor substrate;

a buried oxide layer formed on the semiconductor substrate;

a body on the buried oxide layer, the body being an active region of a transistor;

a gate oxide layer formed on the body;

a gate formed on the gate oxide layer; and

a body contact supplying power to the body,

wherein the body contact is formed by forming a trench perforating an isolation region, the body, and the buried oxide layer and filling the trench with a conductive material so that the body is electrically connected to the semiconductor substrate.

2. The SOI MOSFET of claim 1, wherein the gate is formed of at least one of metal and polysilicon.

3. The SOI MOSFET of claim 1, wherein the conductive material is formed of one of a metal layer, a tungsten layer, a silicon epitaxial layer, and a combination layer of at least two of a metal layer, a tungsten layer and a silicon epitaxial layer.

4. The SOI MOSFET of claim 1, further comprising a region into which predetermined impurity ions are implanted and generated on the semiconductor substrate in contact with the lower portion of the body contact so that an ohmic contact is formed between the body contact and the semiconductor substrate.

5. The SOI MOSFET of claim 1, wherein the trench narrows as the trench deepens.

6. The SOI MOSFET of claim 5, wherein the trench narrows in a step-wise manner as the trench deepens.

7. A method of fabricating a SOI MOSFET comprising:

forming a buried oxide layer on a semiconductor substrate;

forming a silicon body on the buried oxide layer;

defining the silicon body as a channel region, a body contact, an isolation region, a field oxide layer region, a peripheral active region and etching the isolation region and the field oxide layer;

further etching the isolation region until the buried oxide layer is exposed;

forming oxide layers in the isolation region and the field oxide layer region;

forming a gate oxide layer on a predetermined region on the body and forming a gate on the gate oxide layer;

etching the semiconductor substrate from an upper part toward a lower part so that the body and the buried oxide layer are perforated to form a trench;

implanting predetermined impurity ions into a predetermined region of the semiconductor substrate to form an ohmic contact; and

filling the trench with a conductive material.

8. The method of claim 7, wherein the predetermined region of the semiconductor substrate is the bottom of the trench.